

# Regulatory Economic Analysis Manual

*A Manual for Conducting Regulatory Economic Analysis under  
Executive Order 19 & ORM Procedures for the Review of State Agency  
Regulations*



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## *Introduction*

Transparency is one of the key aspects of good governance. When the government explains to the public the reasons and rationales behind its decisions, it is more accountable to its citizens. One particular area that would benefit from more transparency is the regulatory process. Understanding the decisions behind regulations is crucial to a transparent government.

Transparency in regulations is an important aspect of achieving a best-in-class state government ([Executive Order 19](#)). To create a best-in-class regulatory system, it is critical that regulations promote the public health, safety, and welfare of the people of the Commonwealth while minimizing the associated costs. The best way to achieve that goal is to perform a regulatory economic analysis that considers the overall costs and benefits of regulations as well as cost and benefit impacts for specific communities (local partners, families, and small businesses) and to select the best option based on that analysis.

This Manual is intended to help you perform the analysis required under [Executive Order 19](#) and the Office of Regulatory Management's (ORM) [Procedures for the Review of State Agency Regulations](#). It is tied to ORM's Economic Review Form (Appendix B). It shows you how to perform each element required by the ORM Economic Review Form, including an overall cost-benefit analysis as well as analyses for impacts on local partners, families, and small businesses. It also explains how to identify benefits and costs and how to quantify them whenever possible.

By using this Manual, agencies<sup>1</sup> can ensure that they are providing the best value to the people of the Commonwealth while achieving their regulatory missions. ORM and Department of Planning and Budget (DPB) are important partners in this initiative and plan to work closely with agencies as we move forward.

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<sup>1</sup> For the purposes of this Manual, the term "agencies" also refers to regulatory boards and any other entities that promulgate regulations.

## 1. Regulatory Economic Analysis Requirement

### *What is a Regulatory Economic Analysis?*

Executive Order 19 and the ORM Procedures for the Review of State Agency Regulations require that new regulations undergo both an overall cost-benefit analysis and a set of targeted cost-benefit analyses with respect to specific regulatory stakeholders, including local partners, families, and small businesses. This entire analysis is called a *regulatory economic analysis*.

Agencies use the ORM Economic Review Form (Appendix B) to conduct this analysis. It is separate from the *Economic Impact Analysis* that the DPB prepares in cooperation with the agency, though there may be some overlap between the two analyses.

### *When Do I Need to Prepare a Regulatory Economic Analysis?*

A regulatory economic analysis is required with respect to the following types of regulatory actions, though the type of analysis may differ depending on the type of action (as explained below):

- Proposed Stage (including Exempt and Non-Exempt Actions)
- Final Stage (including Exempt and Non-Exempt Actions)
- Fast-Track Stage
- Expedited Stage (including Exempt and Non-Exempt Actions)
- Periodic Review
- Issuance or Periodic Review of Guidance Documents

A regulatory economic analysis is not required with respect to the following types of regulatory actions:

- Notice of Intended Regulatory Action Stage (including Exempt and Non-Exempt Actions)
- Emergency Stage

### *Do I Need to Perform a Full Regulatory Economic Analysis for Every Type of Regulatory Action?*

No. The regulatory economic analysis will differ based upon the type or stage of regulatory action. You should perform a full regulatory economic analysis for the following types of actions:

- Proposed Stage
- Fast-Track Stage
- Exempt Actions That Do Not Involve a Statutory Mandate to Take a Specific Approach (i.e., those involving agency discretion)
- Issuance of a Guidance Document

For a regulation at the *final stage*, you can simply update the regulatory economic analysis you prepared for the proposed regulation. If no changes have occurred, you can reuse the same analysis. If changes have occurred, you should identify those changes, indicate why the changes were made, and explain how, if at all, the changes alter the analysis provided during the proposed stage. When accounting for changes between stages, be sure to consider that the value of the underlying costs and benefits may have changed as a result of inflation.

With respect to a regulation that is *exempt*, regulatory actions often qualify as exempt because they are mandated by either state or federal statutes or by federal regulations (APA § 2.2-4006.4). As will be explained more fully in Part 3 below, you need not identify alternatives if a state or federal statute or a federal regulation requires you to take a specific action (which means you can omit Table 1c): the federal or state government has told the agency what it must do, so it is not worth the time to look at other options.

For a regulation that qualifies as *expedited*, you should perform a full regulatory economic analysis once, but you do not need to perform it again year after year unless there is a significant change in the regulation or the circumstances under which it was issued have substantially changed. For the first expedited regulation you issue following the release of this Manual, you should perform a full regulatory economic analysis. But you need not update it as you alter the regulation to reflect different timelines, quotas, or other parameters in subsequent years. You can simply resubmit the regulatory economic analysis you originally prepared.

For a *Periodic Review*, you need not perform a full cost-benefit analysis and can limit your analysis to impacts on local partners, families, and small businesses. This means that you can omit Tables 1a, 1b, and 1c but should fill out Tables 2, 3, and 4. When completing those tables, you should focus on analyzing how the current regulation affects local partners, families, and small businesses and on how modifying or eliminating it might alleviate burdens on those groups. You do not need to focus much time on providing a dollar value for the regulation's effects on those groups, though you should include one if it is readily available.

When issuing or periodically reviewing a *Guidance Document*, you should treat it exactly as you would a regulation: perform a full analysis if you are issuing or amending a guidance document and follow the approach described above for periodic reviews if you are reviewing an existing guidance document. If you recently completed a regulatory economic analysis on a regulation associated with a guidance document, you will likely be able to draw on it and can reuse the same information so long as it is not out of date. If you believe that conducting a standard regulatory economic analysis does not make sense in connection with issuing a new guidance document or periodically reviewing an existing one, please consult with ORM as to whether a full or partial analysis should be conducted.

## 2. Key Steps in a Regulatory Economic Analysis

In order to conduct a regulatory economic analysis, you will need to ask the following questions:

- What problem am I trying to solve?
- What are the possible approaches to solving it?
- What are the benefits of the different approaches?
- What are the costs of the different approaches?
- How do the benefits compare to the costs?
- How do the different approaches affect different groups, including local partners, families, and small businesses?

The rest of this document walks you through how to conduct each step of the analysis and how to summarize your analysis using the ORM Economic Review Form (Appendix B).

### 3. Identifying the Problem

#### *How Do I Determine If There Is a Problem That Needs To Be Solved?*

Regulations attempt to solve problems. Sometimes, the federal or state government issues a statute or the federal government issues a regulation that requires one or more Commonwealth agencies to address a particular problem in a specific way. At other times, a state statute authorizes a Commonwealth agency to address a problem but leaves it up to the agency to decide whether and how it will regulate that problem.

Before deciding whether and how to proceed, you must identify the statute that either authorizes or requires your agency to act. If a federal or state statute or a federal regulation requires a particular action, then you will need to follow it to the letter.

But statutes often merely authorize agencies to act, leaving it up to them to decide *whether* to proceed. And other state or federal statutes or federal regulations might require an agency to act but leave it up to the agency to decide *how* it is going to proceed. In still other cases, a state or federal state statute or federal regulation may require an agency to take a particular action, and the agency both undertakes that mandated action and makes additional changes that are not mandated. In all of these cases, your agency has at least some *discretion* as to how it will proceed.

If your agency has the option of whether or not to act, you need to ask “what is the problem, if any, with the status quo that the agency is attempting to solve?” In answering this question, you should bear in mind that it is “the policy of the Commonwealth that only regulations necessary to interpret the law or to protect the public health, safety, or welfare shall be promulgated” (APA § 2.2-4013(A); ORM Procedures for the Review of State Agency Regulations).

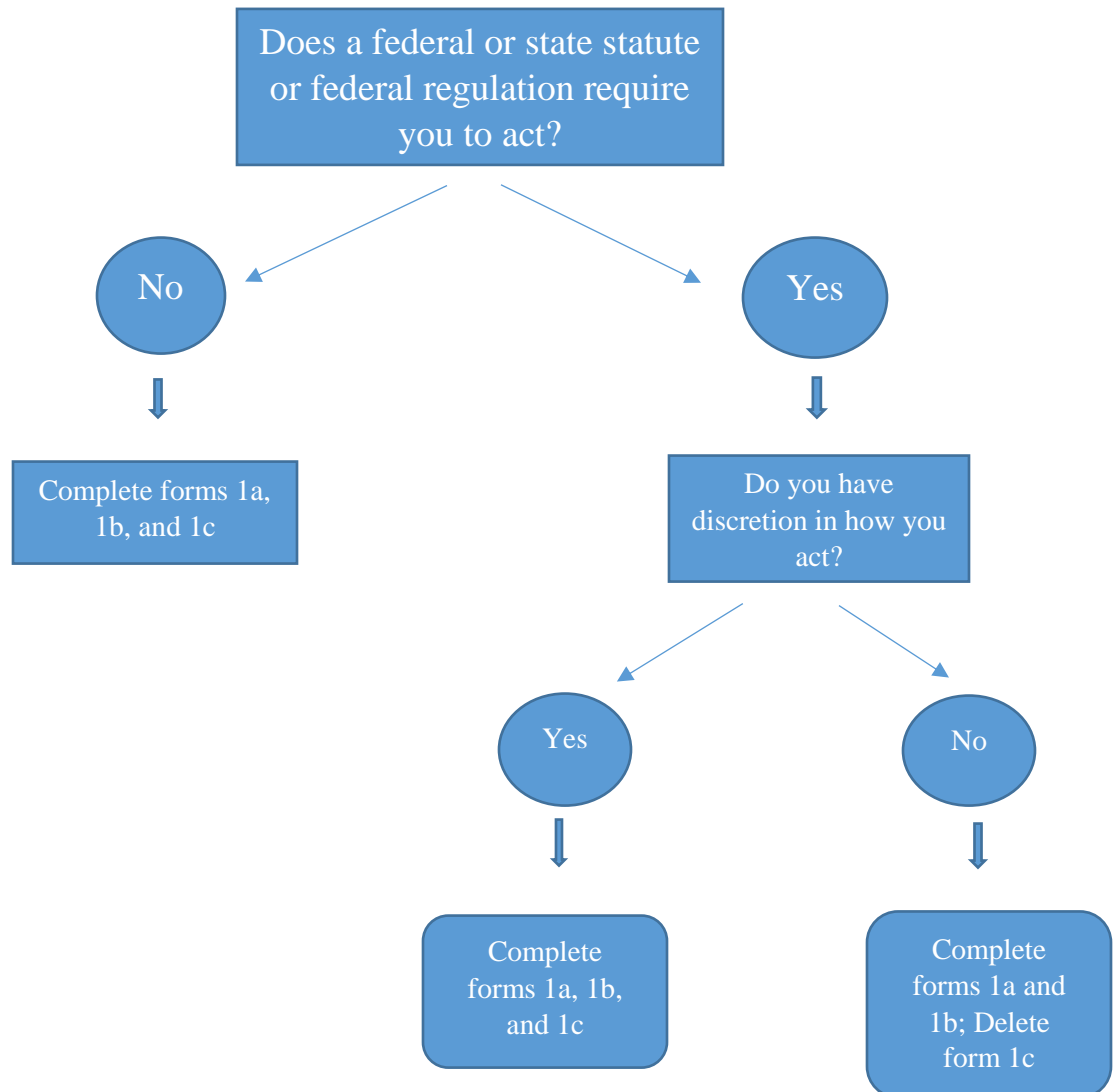
You should also consider whether the market might solve the problem over time. Businesses often voluntarily regulate their own behavior by agreeing to industry standards, which may make government regulation duplicative and unnecessary. In addition, evolving technology sometimes eliminates the need for regulation. For example, online reviews now allow consumers to check out potential contractors before hiring one, which may reduce or eliminate the need for government oversight.

#### *How Do I Report My Analysis?*

If a federal or state statute or federal regulation *requires you to take a specific action*, then you will need to fill out Tables 1a and 1b of the ORM Economic Review Form but can delete Table 1c so long as every action you are taking is mandated (and should include a statement noting that all changes are mandated). For instance, many exempt regulations are mandated by federal or state statute or federal regulation and, as noted in Part 1, therefore only require completion of Tables 1a and 1b. In completing the tables, you should assess all of the benefits and costs of the

proposed regulation (as well as the benefits and costs of doing nothing) even if what you are doing is mandated by law.

If a state statute merely *authorizes* your agency to act, or a federal or state statute or federal regulation *requires it to act but leaves the details open*, then you will need to fill out Table 1c as well (see Part 4 on *Alternatives* for filling out Table 1c).



To complete Table 1b, the next question you need to ask is what the world would look like if your agency *did not* act. This is called establishing the *baseline*.<sup>2</sup>

<sup>2</sup> Obviously, if the statute requires the agency to act, then doing nothing is not an option. You still need to calculate the baseline, though, because this will allow you to compare the benefits and costs of different approaches if you are authorized to select among various options. And, even if you lack the authority to choose different options, it will provide the public with important transparency regarding regulations and allow the General Assembly to easily assess the economic effects of its laws by comparing the benefits and costs of the action taken to the baseline.



When calculating the baseline, keep in mind that you cannot just assume that the world will look exactly like it does now if your agency does nothing. Consider, for instance, a regulation governing the annual harvest of oysters in Virginia waters. The oyster population in a bay may currently be 1 million, but it may be growing by 10% every year. If fishermen are currently harvesting 50,000 oysters per year, the population will actually go up every year (1 million oysters + 100,000 new oysters – 50,000 oysters harvested = 1,050,000 oysters). The baseline should account for this increase rather than just assuming a fixed population of 1,000,000.

You also should keep in mind that the baseline is your best projection of the future state of the world without any *further* regulatory intervention, not the state of the world in the *absence* of any regulation. For example, existing law might place an overall cap of 200,000 on annual oyster harvests. You should take that cap and any other existing regulatory requirements into account in determining what the effect of passing a new regulation will be.

Once you have established the baseline, use that information in order to complete Tables 1a and 1b.

#### 4. Identifying the Alternative Approaches

##### *How Do I Identify Alternative Approaches?*

Once you have decided to regulate, you should consider various options if you have the authority to do so. The whole point of cost-benefit analysis is to achieve regulatory benefits at a reasonable cost, and you need to consider different options in order to choose the best one. And to promote transparency and promote useful public input, the options should be laid out explicitly.

The ORM Procedures for the Review of State Agency Regulations provide that “regulatory activity should be undertaken with the least possible intrusion into the lives of the citizens of the Commonwealth” and direct agencies to consider the following alternative approaches:

<b>Alternative</b>	<b>Example</b>
<b>User Fees or Permits</b>	Rather than prohibiting oyster harvest, agency could charge users a fee for every oyster harvested or issue permits allowing the holder to harvest 1000 oysters
<b>Information Disclosure Requirements</b>	Agency could create a program that allows fishermen who voluntarily limit their catch to display a special “sustainable harvest” insignia on their product
<b>Performance Standards<sup>3</sup></b>	Agency could require oyster fishermen to come up with an industry standard that will ensure that oyster populations remain at sustainable levels
<b>Consideration of Reasonable Alternatives in Lieu of Regulation</b>	Agency could consider whether the oyster industry might have an incentive to limit the annual harvest voluntarily to ensure sustainability

In addition to these approaches, agencies should consider a variety of other alternative regulatory approaches, including the following:

<b>Alternative</b>	<b>Example</b>
<b>Different Degrees of Stringency</b>	Agency could consider allowing 2000 oysters per boat rather than 1000
<b>Different Compliance Dates</b>	Agency could consider delaying limit on oyster harvests for 6 months in order to allow fishermen to learn new standards
<b>Different Enforcement Methods</b>	Agency could consider a warning in lieu of a fine for first act of over-harvesting

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<sup>3</sup> “Performance standards” involve a type of regulation in which the agency requires another body to meet a particular goal but does not tell it how to do so. This differs from a “design standard,” which involves telling a regulated party exactly how it must achieve a particular goal (e.g., use a special type of rake that limits number of oysters harvested).

<b>Varying Requirements by Firm Size</b>	Agency could exempt fishing firms with fewer than 5 employees (see Part 8 on accounting for small business impacts)
<b>Varying Requirements by Geographic Region</b>	Agency could impose harvest limits only in those areas of the Chesapeake in which overharvesting has historically been a problem

Keep in mind that it is probably impossible for you to think of all of the alternative approaches. The people who know the most about a particular problem are usually the ones who experience it every day. For example, oyster fishermen, marine biologists, and residents of the Chesapeake may all have thoughts on how best to achieve a sustainable harvest while ensuring a robust oyster industry.

When formulating the regulation, you should therefore reach out to impacted entities and individual citizens who might have views on how to achieve the regulatory goal in the most cost-effective way possible. This can involve one-on-one conversations, town hall meetings, or agency presentations to local groups. It can also involve inviting affected groups to comment on regulatory actions on the [Virginia Regulatory Town Hall](#) website through a General Notice. You should consider announcing proposed regulatory actions on your website and sending out targeted emails to affected groups to encourage them to provide comments that address potential alternatives.<sup>4</sup>

### *How Do I Report My Analysis?*

After you have identified and considered the different alternatives, you should complete Table 1c of the ORM Economic Review Form. Table 1c requires that you analyze at least one alternative (beyond the chosen course of action analyzed in Table 1a and the no-action option analyzed in Table 1b), but you do not have to limit yourself to just one. You can add additional charts to Table 1c if needed. Several of the alternatives listed above may be possibilities, and you might think of others. You should consider as many alternatives as reasonably possible and analyze the benefits and costs of each. This will ensure that you find the alternative that is most cost-effective.

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<sup>4</sup> If you end up relying on information that you received from stakeholders or the public when completing the ORM Economic Review Form, you should identify the source in the Box for “Information Sources.”

## 5. Analyzing the Benefits

After you have identified the different alternative approaches you want to analyze, you should consider the benefits of each one (as well as the costs). When you assess the benefits, you should limit your analysis to the Commonwealth of Virginia (and not consider broader benefits created in the United States or the world). When doing the overall cost-benefit analysis required under ORM Economic Review Form Tables 1a, 1b, and 1c, you should start by considering the benefits for the following entities/groups:

- General Public
- General Regulated Community
- Businesses or Other Regulated Entities
- Your Agency
- Other State Agencies

To complete Tables 2–4, you will also need to consider the benefits for three specific groups:

- Local Partners
- Families
- Small Businesses

Part 8 of this document looks at how to consider special benefits (and costs) that may apply to those 3 specific groups. The rest of this Part considers how to analyze benefits that apply more generally.

### *What Are Direct and Indirect Benefits?*

A *direct benefit* is one that occurs as an immediate result of the stated goals of the regulation (in accordance with the purpose of the authorizing statutory provision), without any intervening steps or actions. For example, consider a regulation that eliminates a form that healthcare employees are currently required to complete every year. The amount of time that the employees save by not having to complete the form and the amount of time that agency employees save by not having to review the form are direct benefits.

An *indirect benefit* is one that occurs because of the regulation but is unrelated to its stated goals. Using the previous example, imagine that the agency that reviews the forms has maintained an outdated computer system that was necessary in order to process them. Once the forms are eliminated, the agency can upgrade to a newer system with lower maintenance costs. The money the agency saves by upgrading its technology is an indirect benefit: it did not make the change with the goal of updating its computers, but that is an added benefit of the change.

When analyzing the possible direct and indirect benefits that may result from a regulation, you should consider how each stakeholder group might be affected. The following questions can help you identify possible benefits:

Stakeholder Group	Questions About Possible Benefits
State Agencies	<ul style="list-style-type: none"> <li>• Will the regulation save time or money for your agency or another agency?</li> </ul>
Business and Other Private Organizations	<ul style="list-style-type: none"> <li>• Does the regulation decrease compliance costs?</li> <li>• Does the regulation increase business profitability by reducing costs?</li> <li>• Does the regulation make the market more competitive?</li> </ul>
Regulated Community/General Public	<ul style="list-style-type: none"> <li>• Does the regulation decrease the price of goods or services?</li> <li>• Does the regulation create benefits for public health or safety?</li> </ul>

### *Are There Certain Types of Benefits That I Should Not Consider?*

As you look at possible indirect benefits, you should consider the downstream effects of the regulation but should not be speculative. Using the healthcare form elimination example, there are any number of additional benefits that could theoretically arise as a result of the change. The reduction in frustration could improve employees' psychological well-being and overall health. The reduced paper usage could save a lot of trees and promote reforestation.

Though these are all real possibilities, whether or not they would arise is purely speculative. They therefore should not be counted as benefits of the regulation. For a benefit to count, you should have clear evidence that it will arise if the regulation is adopted.

Another type of "benefit" that you should not count is one that involves shifting money from one group to another, which is known as a *transfer payment*. For instance, consider a requirement that oyster fishermen pay a fee of \$100 in order to obtain a fishing license. This increases agency revenue by \$100 per license, but it does not count as a "benefit" because it involves moving money from one group (fishermen) to another (state agency).

You may, however, need to consider certain types of transfer payments when analyzing a regulation's effects on local partners, families, and small businesses. For example, consider a regulation that prohibits businesses operating fewer than 10 boats from fishing for oysters. If the overall harvest remains the same, any revenue lost by small fishermen will be offset by increased revenue for large fishermen. The shifted revenue therefore does not count as a "benefit" or "cost" in the *overall* cost-benefit analysis, but it should be listed as a cost borne exclusively by small businesses in Table 4.<sup>5</sup> Part 8 will discuss these types of benefits and costs in greater detail.

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<sup>5</sup> This regulation might have another cost: driving out small fishermen will make the market less competitive, which might increase the overall cost of oysters. If that proves to be the case, the increased cost to consumers should be put in dollar terms and included as an indirect cost of the regulation.

### *How Do I Calculate Benefits?*

After you have identified all of the possible benefits, you should try to assign a number to them. Ideally, you should come up with a dollar figure, which is called *monetizing* the benefits. But if that is not possible, you should at least try to *quantify* the benefits by expressing them in numbers.

In monetizing direct and indirect benefits, you should consider whether or not the benefit relates to something that is bought or sold in the marketplace. If so, you can monetize the benefits by using the market price. You can also look to official sources like the Consumer Price Index (see Appendix A). And you can simply browse commercial websites to get a sense of prevailing prices for goods or services or even poll businesses to see what different things typically cost. You should attempt to get as accurate a number as possible and should not rely too much on isolated examples or word of mouth, but you also should not spend too much time trying to get a perfect figure if no official source exists.

For benefits for which no market exists, providing a monetized value is more difficult but usually possible. Consider, for example, how you might monetize the benefits of eliminating the form required for healthcare employees mentioned above.

At the agency level, imagine that 2 full-time employees (FTEs) each must spend 1000 hours per year to process the forms. Eliminating the form requirement allows them to reallocate their time to other, more productive tasks. The total cost to the agency of employing these individuals (including salary, benefits, and overhead costs) is \$50/hour.<sup>6</sup> The total benefit is the number of hours saved (2000) multiplied by the hourly cost (\$50). The agency therefore enjoys a *direct benefit* in the amount of \$100,000 per year.

The private sector also will enjoy similar savings. Imagine that 500,000 FTEs each must spend 1 hour per year completing the form. They cost the employer \$40/hour. The private sector therefore enjoys a *direct benefit* of \$ 20,000,000 (500,000 FTEs \* 1 hour \* \$40/hr).

As you might predict, the *indirect benefit* to the agency of replacing the outdated computer system is somewhat harder to calculate. It may, however, be possible to determine the annual maintenance and upkeep costs for the old system (say \$100,000) and the anticipated costs for the new system (say \$50,000). If the agency plans to keep the new system for 4 years, it will enjoy a

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<sup>6</sup> When calculating the total cost of employees, it is important to consider not only their salaries but also other associated expenses. Most obviously, this includes any benefits the employees receive (healthcare, retirement savings, Social Security contributions, etc.). It also includes overhead expenses, including the cost of office space for housing employees, the cost of maintaining an HR apparatus, etc. If you cannot easily track down this information, a reasonable rule of thumb is that benefits and overhead expenses are roughly equal to an employee's annual salary. So the total cost of a worker making \$100,000 per year is around \$200,000 per year.

total savings of \$200,000 (\$50,000/yr \* 4 years).<sup>7</sup> If the new system costs \$100,000 to install, the total *indirect benefit* to agency is \$200,000 (\$200,000 savings - \$100,000 upfront cost).

Here are some additional examples:

Source	Example
<b>Value of Enhanced Production</b>	<p><b>Benefits to Regulated Public</b></p> <ul style="list-style-type: none"> <li>➤ Average retail price for spiny dogfish is \$10 per pound</li> <li>➤ Board permanently raises quota from 6000 to 7500 pounds per trip</li> <li>➤ Fishermen engage in 1000 trips per year and catch full quota each time</li> </ul> <p><i>Annual benefit is \$15,000,000 (\$10/pound * 1500/pounds/trip * 1000 trips)</i></p>
<b>Value of Increased Market Participation</b>	<p><b>Benefits to Regulated Public</b></p> <ul style="list-style-type: none"> <li>➤ State contractor board offers licensing exam in additional languages</li> <li>➤ 1000 non-English-speaking contractors are now able to obtain a license</li> <li>➤ Average increase in salary for licensed contractors is \$10,000/year</li> </ul> <p><i>Annual benefit is \$10,000,000 (1000 contractors * \$10,000/year/contractor)</i></p>
<b>Value of Reduced Compliance Burden</b>	<p><b>Benefit to Regulated Public #1</b></p> <ul style="list-style-type: none"> <li>➤ Social services board eliminates notarization requirement for forms</li> <li>➤ Cost per form notarized is \$25</li> <li>➤ 10,000 forms per year are filed</li> </ul> <p><i>Annual benefit is \$250,000 per year (\$25/form * 10,000 forms)</i></p> <p><b>Benefit to Regulated Public #2</b></p> <ul style="list-style-type: none"> <li>➤ Applicants spend 2 hours on average getting form notarized</li> <li>➤ 10,000 forms per year are filed</li> <li>➤ Average after-tax hourly wage is \$25<sup>8</sup></li> </ul> <p><i>Annual benefit is \$500,000 (2 hours/form * 10,000 forms * \$25/hour)</i></p>

<sup>7</sup> This example is oversimplified because future benefits should be discounted to present value. That process will be explained below.

<sup>8</sup> As you saw above, when calculating the total savings to *employers* of freeing up employee time, you should consider the full cost to the employer for each hour of employee time (pre-tax salary, benefits, and overhead). When calculating the benefit to *the public* of freed-up time, you should use a different number. It is reasonable to assume that most people value their time at roughly their after-tax hourly wage, since that is what they are willing to accept to give up part of their free time and work instead.

	<p><b>Benefit to Government</b></p> <ul style="list-style-type: none"> <li>➤ State employee spends half her time per year (1000 hours) validating notarization on forms</li> <li>➤ Total cost to agency per employee is \$50/hour</li> </ul> <p><i>Annual benefit is \$50,000 (1000 hours * \$50/hour)</i></p>
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An additional type of benefits that your agency may need to consider relates to *public health*: a regulation may reduce the risk of death, illness, or injury.

To calculate the benefit of preventing premature death, regulatory economists typically use a figure known as *Value of Statistical Life* (VSL). VSL is usually calculated by determining how much more money people demand to work in a risky profession or otherwise accept a slightly increased risk of death. For example, imagine that a coal miner earns \$20,000 more per year than an office worker. Also imagine that the risk of dying in a mining accident is 1/500 (or 0.002), whereas the risk of dying in an office mishap is essentially zero. Dividing the “risk premium” by the risk ( $\$20,000/0.002$ ) gives a VSL figure of \$10,000,000.<sup>9</sup>

You will likely rarely encounter regulations that require you to calculate the benefit of preventing premature death. Unless you have reliable evidence indicating that a proposed regulation will prevent a certain number of deaths per year, you need not bother with attempting to monetize the benefits of death prevention.

If you do have solid evidence that the regulation will prevent premature death, you should consult with ORM on how best to perform the calculation. Determining the benefit is seldom as easy as plugging in a number for VSL, since the value should be adjusted to account for population characteristics and the fact that spending money on addressing one risk reduces the resources available to address other risks.<sup>10</sup>

Calculating the benefits of reducing the risk of illness or injury can be even more complex. Economists typically use a figure called a *Quality Adjusted Life Year*, which involves determining how much an impairment reduces quality of life, using the VSL divided by total life expectancy to calculate how much each year of life is worth, and then calculating how much the impairment reduces the value of the years of life spent suffering the impairment.<sup>11</sup> The resources

<sup>9</sup> It is important to keep in mind that this figure does *not* suggest that everyone’s life is worth only \$10,000,000. Rather, it is simply a statistic that allows agencies to calculate the benefit of actions that might slightly decrease the risk of dying.

<sup>10</sup> The resources cited under “Resources for Calculating Health and Safety Benefits and Costs” in Appendix A discuss some of these complexities of VSL calculation.

<sup>11</sup> Economists usually prefer this approach because it accounts for all of the harms associated with an illness or injury, including pain and suffering. An alternative, simpler approach could involve calculating medical treatment costs and foregone earnings resulting from an illness or injury. The benefit of the regulation would be the value of preventing these costs.



included in Appendix A under “Resources for Calculating Health and Safety Benefits and Costs” discuss various approaches to performing this calculation.

Here too, you should avoid speculation and only consider monetizing this sort of benefit if you have clear evidence that a regulation will prevent a certain number of illnesses or injuries. If that is true of a regulation on which you are working, please consult ORM to discuss what an appropriate calculation might involve.

### *Where Do I Go to Find Information on Benefits?*

You should consider a variety of different sources in finding this information. Potential sources include the following:

- Official governmental reports (from federal, state, or local sources)
- Academic, technical, or professional articles
- Commercial literature
- Businesses’ websites
- Survey data
- Word of mouth (e.g., inquiring among business owners)

A list of sources you might consider consulting appears in Appendix A. When reviewing these and other information sources, you should pay attention to the quality of the data. For instance, a peer-reviewed journal is more reliable than a privately funded study, which itself is more reliable than a website. When deciding which sources to use, you should consider seeking comment from stakeholders on the quality and reliability of the studies you are reviewing.

You should also keep in mind that certain types of studies produce more reliable information than others. In particular, actually observing how much people are willing to pay for something is far more reliable than asking them what they are willing to pay. For instance, checking how much more people spend for cars with added safety features gives a better sense of what those features are worth than running a survey that asks people how much they would be willing to pay for them.

The Tables in the ORM Economic Review Form all include an entry for “Information Sources” (see, for example, Box 5 on Table 1a). When completing this entry, you should describe the sources you consulted. You should also describe any limitations in the data. For example, if you relied on a survey asking people what they would be willing to pay for better auto safety features, you should mention that on the Form. You should also maintain copies of the information sources used and be prepared to provide them to ORM on request.

### *How Do I Calculate the Present Value of Benefits?*

Everyone prefers present benefits to future benefits. For example, the value of \$5 now is much greater than the value of \$5 in 10 years (which is why banks pay interest on savings accounts).

The same is true of regulatory benefits: any future benefits are worth less than the same benefits right now.

In order to calculate the present value of future benefits, you will need to gather a few pieces of information:

- How long do you anticipate the regulation will be in place? Keep in mind that regulations must undergo periodic review every 4 years (VA Code §§ 2.2-4007.1(D)–(E)). You therefore should generally consider the effects of the regulation over a period of 4 years, though there may be instances in which you want to use a shorter or longer period of time. For instance, if the regulation requires purchasing a capital asset for which the useful lifespan exceeds 4 years, a longer period may be appropriate.
- Do the benefits differ from year to year?

To calculate present value, you should use the following equation:

$$PV = \frac{FV}{(1+r)^n}$$

- “PV” is what you are calculating: the *present value* of the benefit.
- “FV” is the *future value*: you should plug in what you think the benefit will be worth in the future. You should not adjust this value for inflation because the discount rate (discussed below) has already accounted for its effects.
- “r” is the *discount rate*: you should use a value of 0.03 (i.e., a 3% discount rate), which is a commonly accepted standard rate, unless you believe another rate is more appropriate.<sup>12</sup> Please contact ORM prior to using a different rate.
- Finally, “n” represents the number of years from the present. For instance, if the benefit will arise 2 years from now, you should enter a value of 2.

See below for a simple example of calculating the present value of benefits using the oyster harvest regulation:

	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
<b>Future Value of Oysters Harvested</b>	\$50,000	\$100,000	\$100,000	\$100,000	\$100,000
<b>Present Value of Oysters Harvested</b>	\$50,000/(1 + 0.03) <sup>0</sup> = \$50,000	\$100,000/(1 + 0.03) <sup>1</sup> = \$97,087	\$100,000/(1 + 0.03) <sup>2</sup> = \$94,260	\$100,000/(1 + 0.03) <sup>3</sup> = \$91,514	\$100,000/(1 + 0.03) <sup>4</sup> = \$88,849

<sup>12</sup> A 3% rate is typically used when a regulation affects private consumption (e.g., buying and selling goods) rather than capital investment, which will be true of most Virginia regulations. If the regulation has the potential of reducing business investment, however, another rate may be appropriate (7% is most commonly used). Please contact ORM if you believe a departure from the 3% default rate is warranted.

If the regulation lasts for a full 4 years, then the *total present value* is the sum of all of the individual present values (i.e., all of the numbers in the bottom row of the chart). In this case, the total present value is \$421,710.

You should use the [ORM CBA Worksheet](#) to help you perform this calculation. The Worksheet is an interactive Excel document that automatically performs the calculation for you. Simply enter the future value in the appropriate cells on the top chart, and the corresponding entry on the bottom chart will automatically convert to present value. After you have provided entries for every year during which the regulation will be in force, you should determine the total present value and provide it in Box 2(b) in the Table 1 charts.

### *How Do I Report My Analysis?*

There are two separate boxes for reporting benefits in the ORM Economic Review Form: Box 2(b) includes all direct and indirect benefits that are monetizable, and Box 4 includes all other benefits (and costs) that are not monetizable.

Even if you cannot monetize certain direct or indirect benefits, you may still be able to *quantify* them. Imagine, for instance, a regulation that imposes a fine for littering in a public park, which will improve the quality of the user experience. It may not be possible to assign a dollar value to the improved scenery, but you can note the number of people who visit the park per year and will enjoy the nicer view.

All direct or indirect benefits that you cannot monetize should be reported in Box 4 and should be quantified if at all possible. If you cannot quantify a benefit, simply provide a general description of it and why it will be beneficial to the government, businesses, or the general public.

## 6. Analyzing the Costs

The process for calculating costs is very similar to the process for calculating benefits. Again, you should limit your analysis to the Commonwealth of Virginia (and not consider broader costs created in the United States or the world). To complete ORM Economic Review Form Tables 1a, 1b, and 1c, you should start by considering the costs for the following entities/groups:

- General Public
- General Regulated Community
- Businesses or Other Regulated Entities
- Your Agency
- Other State Agencies

To complete Tables 2–4, you will also need to consider the costs for three specific groups:

- Local Partners
- Families
- Small Businesses

Part 8 of this document looks at how to consider special costs that may apply to those three specific groups. The rest of this Part considers how to analyze costs that apply more generally.

### *What Are Direct and Indirect Costs?*

*Direct costs* arise as an immediate result of the stated goal of the regulation (in accordance with the purpose of the authorizing statutory provision), without any intervening steps or actions.<sup>13</sup> For example, if an agency requires fishermen engaged in oyster fishing to use special rakes, the total cost of buying and maintaining the rakes is a direct cost to fishermen.

An *indirect cost* is one that occurs because of the regulation but is unrelated to its stated goals. For example, if the required rakes are expensive, some fishermen may decide simply to shut down their businesses rather than comply with the regulation. The reduced competition as some fishermen leave the market is an indirect cost of the regulation.

When analyzing the possible direct and indirect costs that may result from a regulation, you should consider how each stakeholder group might be affected. The following questions can help you identify possible costs:

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<sup>13</sup> When measuring regulatory costs, you are attempting to capture the “opportunity cost” that arises as a result of the regulation: if the regulation were not enacted, how would the resources it affects otherwise be put to use? Since the market is dynamic and regulatory changes can have multiple downstream effects that are difficult to measure, it is usually simplest to focus primarily on the direct compliance costs that businesses will need to incur in order to meet the regulatory requirements. Most of the examples cited in this Manual therefore focus on determining compliance costs.

Stakeholder Group	Questions About Possible Costs
<b>State Agencies</b>	<ul style="list-style-type: none"> <li>• Will the regulation require your agency or another agency to spend time or money to implement it?</li> </ul>
<b>Business and Other Private Organizations</b>	<ul style="list-style-type: none"> <li>• Does the regulation increase compliance costs?</li> <li>• Does the regulation cause businesses to lose revenue streams?</li> <li>• Does the regulation make the market less competitive?</li> </ul>
<b>Regulated Community/General Public</b>	<ul style="list-style-type: none"> <li>• Does the regulation increase the price of goods or services?</li> <li>• Does the regulation increase risks to public health or safety?</li> </ul>

### *Are There Certain Types of Costs That I Should Not Consider?*

As was true when considering indirect benefits, you should consider all the downstream effects of the regulation but should ignore indirect costs that are speculative. Using the oyster fishing example, requiring special rakes may impose a variety of additional indirect costs. The increased demand for the alloy used to produce the rakes could cause inflated prices for other products using the same alloy. The reallocation of manufacturing capacity to producing rakes may cause temporary shortages of other products. As when considering the benefits, however, you should only focus on costs that are almost certain to arise if the regulation is adopted and ignore these types of speculative costs.

You also should not count *transfer payments* towards the overall cost of the regulation. Transfer payments move money from one group to another. For example, imposing a \$100 fee for a fishing license increases the agency's revenues by \$100 per license and decreases the fishermen's revenue by exactly the same amount. The two values cancel each other out, so the licensing fee should not count as a cost. Reducing or eliminating a fee does, however, count towards the regulatory reduction goals of Executive Order 19, as explained in the forthcoming ORM Guidance on 25% Regulatory Reduction.

Some transfer payments may also need to be considered when analyzing benefits and costs for local partners, families, and small businesses. If, for example, a regulation causes small businesses to lose money and large businesses to gain the same amount of money, the cost to small business should not count towards the cost-benefit analysis provided in Tables 1a, 1b, and 1c. But it should be considered when completing Table 4, which considers specific costs to small business. Part 8 of the Manual will elaborate.

### *How Do I Calculate Costs?*

As was true with benefits, you should *monetize* the costs by coming up with a dollar amount. If that is not possible, you should still try to *quantify* the costs by expressing them in numbers.

Regulatory costs are often easier than regulatory benefits to tie to a market transaction, and monetizing them should usually prove straightforward. It will often be simple to track down

official sources (see Appendix A for examples) or to browse businesses' websites to identify typical costs. You can also survey businesses or conduct informal outreach. Again, you should strive to come up with a reliable figure but should not spend an excessive amount of time doing so.

Consider some examples of how you might monetize different types of regulatory costs:

Source	Example
<b>Compliance Costs Requiring a Commercial Transaction</b>	<p><b>Cost to Business</b></p> <ul style="list-style-type: none"> <li>➤ Regulation requires new barber shops to include on-site bathroom exclusively for customers</li> <li>➤ Cost of installing bathroom is \$10,000</li> <li>➤ 100 new barber shops open per year</li> </ul> <p><i>Annual cost is \$1,000,000 (\$10,000/bathroom * 100 bathrooms)</i></p>
<b>Compliance Costs Requiring Increased Expenditure of Time</b>	<p><b>Cost to Business</b></p> <ul style="list-style-type: none"> <li>➤ Requiring new employees to complete a governmentally mandated training requires 1 hour on average</li> <li>➤ The average total cost to businesses for workers is \$50/hour</li> <li>➤ Mandating the training will require 500,000 new employees per year to complete it</li> </ul> <p><i>Annual cost is \$25,000,000 (1 hour/training * \$50/hour * 500,000 trainings completed)</i></p> <p><b>Cost to Government</b></p> <ul style="list-style-type: none"> <li>➤ Ten agency employees spend half their time per year (1000 hours) administering the training</li> <li>➤ The total cost to government for workers is \$60/hour</li> </ul> <p><i>Annual cost is \$600,000 (10 employees * 1000 hours/employee * \$60/hour)</i></p>
<b>Cost of Reduced Commercial Activity</b>	<p><b>Cost to Contractors</b></p> <ul style="list-style-type: none"> <li>➤ Licensing board increases required hours for certification from 1000 to 1600 (i.e., increase of 600 hours)</li> <li>➤ Contractors earn \$20/hour once certified</li> <li>➤ 100 contractors are affected per year</li> </ul> <p><i>Annual cost to contractors is \$1,200,000 (600 hours * \$20/hour/contractor * 100 contractors)</i></p>

Though regulations usually do not have the effect of *increasing* the risk of illness, injury, or death, they can sometimes do so indirectly. For example, automobile airbags significantly reduce the risk of injury or death during a major collision, but they also slightly increase the risk of burns and other injuries (including death by decapitation in very rare cases).

As explained in Part 5, calculating the benefits or costs associated with changes in the risk of illness, injury, or death is complicated and must be tailored based on the type of regulation. It is very unlikely that your agency will issue a regulation that increases such a risk, but if you have solid evidence that it does so, please consult with ORM to discuss coming up with a way to monetize the cost.

### *Where Do I Go to Find Information on Costs?*

As you did when calculating benefits, you should consider a variety of different sources in finding information on regulatory costs. Potential sources include the following:

- Official governmental reports (from federal, state, or local sources)
- Academic, technical, or professional articles
- Commercial literature
- Businesses' websites
- Survey data
- Word of mouth (e.g., inquiring among business owners)

A list of sources you might consider consulting appears in Appendix A. Again, pay careful attention to the quality of the data being used. Be sure to describe the sources you consulted and any limitations in the data used in the box for "Information Sources" on the ORM Economic Review Form.

### *How Do I Calculate the Present Value of Costs?*

Present costs are always more significant than equivalent future costs. For example, requiring oyster fishermen to buy special rakes immediately will impose a greater cost than requiring them to buy them in 2 years. Among other things, the fishermen can invest the money that they will eventually need to spend, and they can implement a plan for how they will cover the future expense.

The process of calculating present value is the same for costs as it is for benefits. Again, you will first need to gather a few pieces of information:

- How long do you anticipate the regulation will be in place? As noted above, regulations must undergo periodic review every 4 years (VA Code §§ 2.2-4007.1(D)–(E)), so you should generally calculate benefits and costs over a period of 4 years, though there may be instances in which you want to use a different time horizon (e.g., when a regulation requires purchasing a capital asset for which the useful lifespan exceeds 4 years).
- Do the costs differ from year to year?

To calculate present value, you should use the following equation:

$$PV = \frac{FV}{(1+r)^n}$$

- “PV” is what you are calculating: the *present value* of the cost.
- “FV” is the *future value*: you should plug in what you think the cost will be in the future. You should not adjust this value for inflation because the discount rate (discussed below) has already accounted for its effects.
- “r” is the *discount rate*: you should use a value of 0.03 (i.e., a 3% discount rate) as a default. As explained in Part 5, please consult ORM if you believe a different discount rate would be more appropriate.
- Finally, “n” represents the number of years from the present. For example, if the cost will arise 2 years from now, you should enter a value of 2.

See below for a simple example of calculating the present value of benefits using the oyster harvest regulation:

	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
<b>Present Cost of Buying and Maintaining Oyster Rakes</b>	\$2,000,000 (upfront purchase cost)	\$100,000 (annual maintenance cost)	\$100,000 (annual maintenance cost)	\$100,000 (annual maintenance cost)	\$100,000 (annual maintenance cost)
<b>Future Cost of Buying and Maintaining Oyster Rakes</b>	\$2,000,000/(1 + 0.03) <sup>0</sup> = \$2,000,000	\$100,000/(1 + 0.03) <sup>1</sup> = \$97,087	\$100,000/(1 + 0.03) <sup>2</sup> = \$94,260	\$100,000/(1 + 0.03) <sup>3</sup> = \$91,514	\$100,000/(1 + 0.03) <sup>4</sup> = \$88,849

The *total present cost* is the sum of all of the individual present costs (i.e., all of the numbers in the bottom row of the chart). In this case, the total present cost is \$2,371,710.

You should use the [ORM CBA Worksheet](#) to help you perform this calculation. The Worksheet is an interactive Excel document that automatically performs the calculation for you. Simply enter the future value in the appropriate cells on the top chart, and the corresponding entry on the bottom chart will automatically convert to present value. After you have provided entries for every year during which the regulation will be in force, you should determine the total present value and provide it in Box 2(a) in the Table 1 charts.



### *How Do I Report My Analysis?*

There are two separate boxes for reporting costs in the ORM Economic Review Form: Box 2(a) includes all direct and indirect costs that are monetizable, and Box 4 includes all other costs (and benefits) that are not monetizable.

Even if you cannot monetize certain direct or indirect costs, you may still be able to *quantify* them. Imagine, for instance, a regulation that mandates a new workplace training seminar. In addition to the direct costs (cost of hiring a presenter, lost employee time), an indirect cost may be increasing job dissatisfaction among employees who are required to sit through the training. That cost would be very difficult to monetize, but you could quantify it by noting the number of employees who will be required to attend the seminar.

All direct or indirect costs that you cannot monetize should be reported in Box 4 and should be quantified if at all possible. If you cannot quantify a cost, simply provide a general description of it and why it will impose a burden on the government, businesses, or the general public.

## 7. Calculating the Net Benefits

### *How Do I Calculate the Net Benefits?*

You also should calculate the *net benefits* of each alternative. You can do this by subtracting the costs from the benefits. For the oyster harvest example, the calculation is:

$$\text{Benefits } (\$421,710) - \text{Costs } (\$2,371,710) = -1,950,000$$

If this is a negative number, the costs exceed the benefits. If it is positive, the benefits exceed the costs. A larger positive number produces more benefits overall.

The [ORM CBA Worksheet](#) automatically calculates the net benefits for each regulatory option you provide. You should report that information in Box 3 of each of the charts for Tables 1a, 1b, and 1c.

You should look for the alternative with the largest positive net benefits. But, as will be explained more fully below, that alternative may not always be the best option if it imposes significant costs or poses other drawbacks.

### *How Do I Select Among the Alternatives?*

As a general matter, you should look for the regulatory alternative that has the largest net benefits. There may, however, be reasons to select a different alternative. First, there may be benefits or costs that cannot be monetized (i.e., those listed in Box 4 of Tables 1a, 1b, and 1c) but that are nevertheless important. You should always consider the non-monetized benefits and costs in addition to those that can be monetized when deciding which alternative achieves the best balance.

Second, regulatory alternatives with large benefits also often come with large costs. For example, a regulation that creates \$25,000,000 in benefits and imposes \$20,000,000 in costs produces much larger net benefits than a regulation that creates \$1,000,000 in benefits and imposes \$100,000 in costs (\$5,000,000 as opposed to \$900,000). But the much higher costs associated with the first option may place an undue burden on parties that have to bear those costs, especially when considered in light of the overall compliance burden associated with all applicable regulatory requirements. In these sorts of cases, an option with smaller net benefits but also smaller costs may be preferable.

Finally, as will be explored in Part 8, you should consider the effects on local partners, families, and small businesses. Using the example provided above, the high costs associated with the option producing large net benefits may prove especially problematic for small businesses, which often have a much harder time than large businesses in absorbing new expenses. A

regulatory option with somewhat smaller net benefits may be preferable if it minimizes costs or creates significant benefits for local partners, families, or small businesses.

Ultimately, you need to decide which approach best promotes public health and safety while minimizing the costs for the regulated community. As you consider the tradeoffs, you should always remember that regulation does not have to be “one size fits all”: you can often achieve the same benefits at a lower cost by creating exceptions for small businesses and other regulated parties for whom the regulation is likely to prove especially burdensome.

## 8. Analyzing the Impacts on Local Partners, Families, and Small Businesses

Local partners, families, and small businesses are specific types of stakeholders. You should therefore consider the benefits and costs created for these three groups as part of the overall cost-benefit analysis you prepare when completing Tables 1a, 1b, and 1c of the ORM Economic Review Form. But you will also need to consider the specific benefits and costs encountered by these three groups when completing Table 2 (Local Partners), Table 3 (Families), and Table 4 (Small Businesses).

In deciding whether a regulation affects any of these key groups, you should consult reports and surveys conducted by government agencies and the private sector. But it may sometimes prove challenging to find any data that applies to these specific groups. The best way of gathering information will often be *talking to the people affected by the regulation*. No one knows better how a regulation might affect small businesses than an actual small business owner, for instance. Similarly, local officials can provide details on how new state regulations will affect them. And just talking with a handful of families can provide details on how a new regulation might affect their budgets.

You should therefore make the best use of your website and other media tools to make sure that you are hearing from the key groups. Consider including a clear, easy-to-find announcement on your home page any time you are adopting a new regulation, and explain who might be interested in it. You should also direct users to the [Virginia Regulatory Town Hall](#) website, letting them know how to file a comment and sign up for alerts about the regulation.

In addition, you should consider the following ways of getting input from local partners, families, small businesses, and any other groups that may be affected by regulatory actions your agency is considering:

- Consulting with advisory committees that include representatives of the key stakeholder groups
- Holding town hall meetings with key stakeholders (in-person or virtual)
- Creating email distribution lists providing updates and encouraging key stakeholders to sign up
- Publishing information about regulatory actions in sources likely to be seen by key stakeholders (e.g., trade journals, newspapers)
- Reaching out to trade associations or other organizations
- Posting a General Notice on the [Virginia Regulatory Town Hall](#) website asking for public comment on how a proposed regulation may affect key stakeholders

If you decide that the regulation does not affect any one of the key groups, you should note that in the appropriate table. If you decide that it does, then you should use basically the same process described above for the overall cost-benefit analysis: provide dollar figures for the direct and indirect benefits and costs that can be monetized; list and, if possible, quantify any other

benefits and costs; and list any information sources and limitations in the data you are using. You do not, however, need to calculate net benefits.

There are also specific things you will want to include for specific groups (e.g., assistance provided for local partners). Those specific requirements will be discussed in connection with each group below.

### *How Do I Analyze Impacts on Local Partners?*

*Local partners* include local governments (counties, independent cities, incorporated towns), school divisions, and other local or regional authorities, boards, or commissions.

State regulations often have economic implications for local partners. For example, if the state passes a law imposing prison sentences for jaywalking, local police forces will have to dedicate resources to enforcing the law. If the state requires school districts to adopt minimum standards for mathematics, local school boards will have to modify their curricula to meet these requirements.

For each regulatory action, you should ask the following questions:

- Will this regulation have an effect on local partners?
- What specific costs are those partners likely to incur, and what specific benefits are they likely to receive as a result of the regulation?

Use this information to complete Table 2.

In many cases, the state does not provide funding to localities in order to meet these new requirements (what is known as an *unfunded mandate*). This can create major challenges for local partners by straining their budgets and possibly even forcing them to cut other essential services. Table 2 therefore specifically asks that you explain what assistance, if any, might be provided to local partners to help them meet the costs of new regulatory requirements (see Box 4). Assistance could include either a source of funding or some other method to help local partners cover the new costs (e.g., lending local partners state employees on a part-time basis to help implement the new regulations).

### *How Do I Analyze Impacts on Families?*

Families are often especially sensitive to costs that are less important for other types of households. For instance, families with young children are especially concerned with the costs of education.

For each regulatory action, you should ask the following questions:

- Will this regulation affect the cost or accessibility of food, energy, housing, transportation, healthcare, education, or any other good or service that is especially important to families?
- How does the regulation alleviate burdens on families (benefits) or impose new burdens on families (costs)?

When assessing the effects on families, you should consider how the regulation would affect a typical family of 3, which is the average family size in Virginia.

You should also consider whether the regulation will have a disproportionate impact on *low-income families*. Families at or near the poverty line are especially sensitive to costs that more affluent families may take for granted. A \$100 application fee for a license, for instance, may represent a small inconvenience for most families but may pose a major hardship for a family living paycheck to paycheck. You should consider the full range of families that will be affected by your agency's regulations and strive to design those regulations in a way that minimizes hardship for the most vulnerable.

After you have done this analysis, you should use it to complete Table 3.

#### *How Do I Analyze Impacts on Small Businesses?*

The Virginia Administrative Process Act (APA) defines "small business" as "a business entity, including its affiliates, that (i) is independently owned and operated and (ii) employs fewer than 500 full-time employees or has gross annual sales of less than \$6 million."

Regulations often have a larger economic effect on small businesses than big businesses. Consider, for example, a requirement that employers fill out a form providing demographic information about their employees. A big business with 50,000 employees can task its HR department with completing the form, and it can do so quickly and efficiently because of the large number of forms being processed. A small business with 50 employees, by contrast, may require a lot more time to track the information down person by person. Though the small business's *overall* cost of compliance may be lower, since it has fewer employees, its cost *per employee* may be much higher.

When enacting a new regulation, you should always consider how it might create unusually large burdens for small businesses. Less frequently, a regulation may create special benefits for small businesses. You should account for those costs and benefits in Table 4.

As noted above, you might also need to include *transfer payments* in your analysis of costs and benefits. If a regulation will take money away from small businesses, it does not necessarily impose an *overall* cost if big businesses then pick up the lost revenue. But it does impose a cost *specifically for small business*, and you should reflect that cost in Table 4.

Table 4 also requires that agencies list *alternative* regulatory approaches that accommodate small businesses (see Box 4). The Virginia APA specifically requires that agencies consider the following alternatives (§ 2.2-4007.1):

<b>Alternative</b>	<b>Example</b>
<b>Less Stringent Compliance or Reporting Requirements</b>	Businesses with fewer than 500 employees can report more limited demographic information on their covered employees
<b>Less Stringent Schedules or Deadlines</b>	Businesses with fewer than 500 employees have an additional 6 months to report information
<b>Consolidation or Simplification of Compliance or Reporting Requirements</b>	Businesses with fewer than 500 employees can fill out a single simplified form rather than completing the 5 separate forms required of other employers
<b>Using Performance Standards</b>	Businesses with fewer than 500 employees can design their own process for obtaining demographic information rather than using the standard government-issued forms
<b>Exemption of Small Businesses</b>	Businesses with fewer than 500 employees need not comply with the reporting requirement

You should consider each of these alternatives in addition to any others that may alleviate the burden on small businesses and report the results in Table 4.

#### *How Do I Weigh Impacts on Local Partners, Families, and Small Businesses Against Other Benefits and Costs?*

As discussed in Part 7, you should pay careful attention to the net benefits when selecting among alternatives. As part of the decision making process, you should also consider the impacts on local partners, families, and small businesses.

Sometimes, your consideration of those special impacts may lead you to adopt a different alternative. For instance, a particular approach may have large net benefits, but it may be especially costly for small businesses. This might lead you to choose a different approach.

Always bear in mind that regulation does not need to be “one size fits all” and can be tailored to account for the burdens faced by local partners, families, and small businesses. That is why Table 4 directs you to consider applying regulations differently to small businesses. You can also consider targeted exceptions that minimize costs for local partners or families. Similarly, you should consider providing special assistance for local partners, as reflected in Table 2.

## Appendix A: Useful Sources of Benefit/Cost Data

### *Resources for Calculating Overall Price Levels*

- [Consumer Price Index Inflation Calculator](#)

### *Resources for Calculating Prices of Specific Goods and Services<sup>14</sup>*

- [Consumer Price Index Databases](#) (provide standard prices for a wide array of goods and services)

### *Resources for Calculating Employee Costs and Earnings*

- [Bureau of Labor Statistics' \(BLS\) Employer Costs for Employee Compensation \(ECEC\)](#) (provides overall costs to employers for employees in various industries)
- [BLS's Occupational Employment Statistics](#) (statistics on wage estimates for 800 occupations, broken down by geographic area)

### *Resources for Calculating Travel Costs*

- [General Service Administration \(GSA\) Per Diem Rates for Lodging and Meals](#)
- [Internal Revenue Service \(IRS\) Reimbursement Rates for Automobile Mileage](#)

### *Resources for Calculating Health and Safety Benefits and Costs*

- [OMB Circular A-4](#) (see Section E, “Developing Benefit and Cost Estimates,” “Monetizing Health and Safety Benefits and Costs”)
- [FEMA Benefit-Cost Analysis Website](#) (provides overview of benefit-cost analysis and offers a toolkit for conducting analyses)
- [HHS Guidelines for Regulatory Impact Analysis](#)
- [EPA Guidelines for Performing Regulatory Impact Analysis](#)
- [EPA Mortality Risk Evaluation Standards](#)
- [DOT Value of a Statistical Life Guidance](#)
- [Database of EPA Regulatory Impact Analyses for Air Pollution Regulations](#)
- [Fair Health Consumer Database](#) (costs to patients for various medical treatments)
- [Tufts Cost Effectiveness Analysis Registry](#) (provides resources for calculating quality adjusted life years)

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<sup>14</sup> When using historical values for the prices of goods and services, be sure to adjust the number to account for price changes resulting from inflation.



## Appendix B: ORM Economic Review Form

### Office of Regulatory Management

#### Economic Review Form

<b>Agency name</b>	
<b>Virginia Administrative Code (VAC) Chapter citation(s)</b>	_ VAC __-__
<b>VAC Chapter title(s)</b>	
<b>Action title</b>	
<b>Date this document prepared</b>	
<b>Regulatory Stage (including Issuance of Guidance Documents)</b>	

### **Cost Benefit Analysis**

Complete Tables 1a and 1b for all regulatory actions. You do not need to complete Table 1c if the regulatory action is required by state statute or federal statute or regulation and leaves no discretion in its implementation.

Table 1a should provide analysis for the regulatory approach you are taking. Table 1b should provide analysis for the approach of leaving the current regulations intact (i.e., no further change is implemented). Table 1c should provide analysis for at least one alternative approach. You should not limit yourself to one alternative, however, and can add additional charts as needed.

Report both direct and indirect costs and benefits that can be monetized in Boxes 1 and 2. Report direct and indirect costs and benefits that cannot be monetized in Box 4. See the ORM Regulatory Economic Analysis Manual for additional guidance.

**Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.  Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		
(4) Other Costs & Benefits (Non-Monetized)		
(5) Information Sources		

**Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.  Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		

(4) Other Costs & Benefits (Non-Monetized)	
(5) Information Sources	

**Table 1c: Costs and Benefits under Alternative Approach(es)**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.  Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		
(4) Other Costs & Benefits (Non-Monetized)		
(5) Information Sources		

### **Impact on Local Partners**

Use this chart to describe impacts on local partners. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

**Table 2: Impact on Local Partners**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.
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	Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Other Costs & Benefits (Non-Monetized)		
(4) Assistance		
(5) Information Sources		

### **Impacts on Families**

Use this chart to describe impacts on families. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

**Table 3: Impact on Families**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.  Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Other Costs & Benefits (Non-Monetized)		
(4) Information Sources		

### **Impacts on Small Businesses**

Use this chart to describe impacts on small businesses. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

**Table 4: Impact on Small Businesses**

(1) Direct & Indirect Costs & Benefits (Monetized)	Direct Costs: Describe the direct costs of this proposed change here.  Indirect Costs: Describe the indirect costs of the proposed change.  Direct Benefits: Describe the direct benefits of this proposed change here.  Indirect Benefits: Describe the indirect benefits of the proposed change.	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Other Costs & Benefits (Non-Monetized)		
(4) Alternatives		
(5) Information Sources		

### **Changes to Number of Regulatory Requirements**

*For each individual VAC Chapter amended, repealed, or promulgated by this regulatory action, list (a) the initial requirement count, (b) the count of requirements that this regulatory package is adding, (c) the count of requirements that this regulatory package is reducing, (d) the net change in the number of requirements. This count should be based upon the text as written when this stage was presented for executive branch review. Five rows have been provided, add or delete rows as needed.*

**Table 5: Total Number of Requirements**

	Number of Requirements			
Chapter number	Initial Count	Additions	Subtractions	Net Change
<b>TOTAL</b>				